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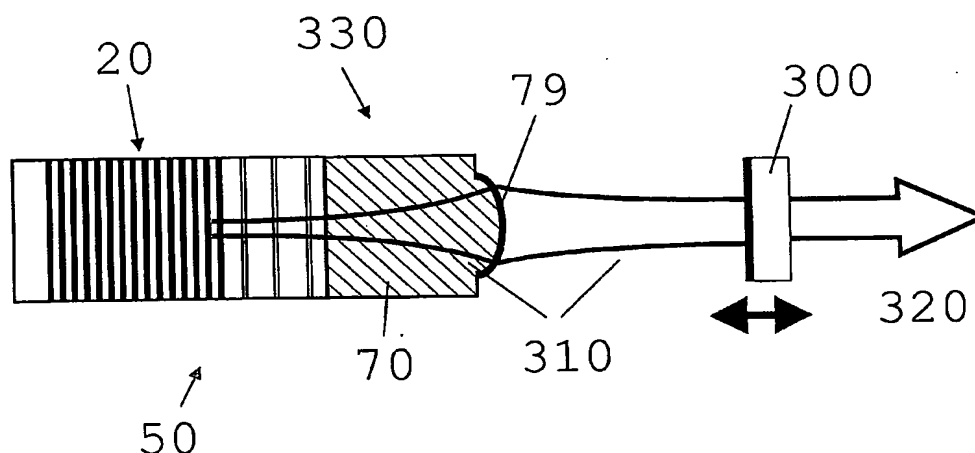
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(54) Title: IMPROVEMENTS IN AND RELATING TO VERTICAL-CAVITY SEMICONDUCTOR OPTICAL DEVICES



(57) Abstract: A vertical-cavity device comprises: (a) a chip comprising an active semiconductor layer for providing optical gain; (b) a first mirror arranged on a first side of the active layer; (c) a second mirror arranged on a second side of the active layer, opposite to the first mirror, and forming with at least the first mirror an optically resonant cavity that passes through the active layer in a direction out of the plane of the active layer; (d) a heatspreader for removing heat from the active layer, the heatspreader being arranged inside the cavity and having a first surface adjacent to the chip and a second surface opposite to the first surface, the heatspreader being transparent to light of wavelengths in an operating bandwidth of the device. In addition to removing heat from the active layer, the heatspreader also has one or more further selected property that has a further selected effect on light output from the device.



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